

Messrs. Keng's plant, "collected on the exposed bare ground of the steppe, near the ruined city of Ch'a-han-chêng, about 30 miles east of Lake Kokonor, Huan-yüan-hsien, formerly known as Tan-kê-erh, Tsinghai Province, August 10, 1944, by Y. L. Keng and son (no. 5286)," is within the range of *Lagotis brachystachya*.

The synonymy of the plant in question can be adjusted as follows:

- Lagotis* J. Gaertner, Nov. Comm. Acad. Sci. Petrop. 14: 533. 1770.
- Kokonoria* Keng & Keng f., Journ. Washington Acad. Sci. 35: 374. 1945.
- Lagotis brachystachya* Maxim. Bull. Acad. Sci. St. Pétersb. 27: 525. 1883 (Mél. Biol. 11: 300. 1883).
- Kokonoria stolonifera* Keng & Keng f., Journ. Washington Acad. Sci. 35: 375. 1945.

Messrs. Keng, working in the interior of wartime China and without access to extensive library and herbarium facilities, were unfortunately not able to consult needed references freely. They have rendered a good service by giving a very complete description with excellent illustrations and a discussion that make identification possible without the necessity of consulting the type specimens. If all presumably new species and genera could be described with this same degree of thoroughness, taxonomic botany would have fewer uncertain names and less confusion. A description that forces the reader to consult the original specimens has indeed defied its very purpose.

ENTOMOLOGY.—*The genus Neella Reuter, with descriptions of four new species* (Hemiptera: Miridae).<sup>1</sup> TSAI-YU HSIAO, Nankai University, Tientsin, China. (Communicated by ALAN STONE).

In 1907 Reuter established the genus *Neella* (genotype: *Ecrcritotarsus eucosmus* Stål) including three species, viz., *Sysinas floridulus* Distant, *E. eucosmus* Stål, and *E. mundulus* Stål (Ann. Naturh. Hofmus. Wien 22: 152-154). Bergroth in 1922 transferred *E. lutescens* Stål to this genus (Ark. för Zool. 14 (22): 17). In 1893 Distant described *E. vultuosus* from Frontera and Teapa, Mexico. I have identified this species from a few specimens collected at Veracruz, Mexico, and consider it as congeneric with *Neella*. From the collection of Neotropical Miridae in the U. S. National Museum I have discovered four more new species, which are described below.

This genus is very close to *Tenthecoris* Scott, but the body is more elongate, with costal margins of hemelytra nearly parallel, vertex flat or somewhat concave. The rostrum is long with short but not distinctly thickened third and fourth segments. There is no sexual dimorphism as in *Neoneella* Costa-Lima, and the cuneus of female is usually shorter in *Neella* than in *Neoneella*.

KEY TO SPECIES OF NEELLA

1. Hemelytra entirely fuscous (except the extreme base).....2  
Hemelytra not entirely fuscous.....4
2. Pronotum entirely reddish or yellowish, legs entirely pale, hemelytra explanate posteriorly.....*eucosmus* (Stål)  
Pronotum fuscous or partly fuscous, legs with at least posterior tibia fuscous or partly fuscous, hemelytra not explanate posteriorly.....3
3. Head, pronotal collar, and calli red, antennal segments III and IV pale....*mundula* (Stål)  
Pronotal collar and calli fuscous, head also tinged with fuscous; antennal segments III and IV dark....*vultuosa* (Dist.), n. comb.
4. Hemelytra unicolorously rufous or flavous...5  
Hemelytra red and dark.....6
5. Antennal segment I entirely pale, vertex flat, rostrum reaching apex of intermediate coxae, posterior tarsi pale.....*unicolor*, n. sp.  
Antennal segment I dark, vertex somewhat concave, rostrum reaching apex of posterior coxae, posterior tarsi fuscous.*lutescens* (Stål)
6. Pronotum without a broad transverse dark band on posterior disk.....7  
Pronotum with a broad transverse dark band on posterior disk.....8
7. Pronotal disk uniformly red, anterior and intermediate tibia each with apex fuscous, ninth abdominal segment concolorous.  
*floridula* (Dist.)  
Pronotal disk with a large median fuscous area

<sup>1</sup> Received August 28, 1946.

- reaching posterior margin, anterior and intermediate tibiae unicolorous, ninth abdominal segment fuscous. . . . . *bicolor*, n. sp.
8. Pronotal collar fuscous; dark band on pronotum broad, occupying nearly whole disk; anterior and intermediate tibiae fuscous at apex. . . . . *carvalhoi*, n. sp.
- Pronotal collar pale; dark band on pronotum narrow, occupying only anterior half of disk; anterior and intermediate tibiae unicolorous. . . . . *fasciata*, n. sp.

***Neella bicolor*, n. sp.**

Coloration and size similar to that of *N. floridula* (Distant) but with distinct dark area on pronotum, anterior and intermediate tibiae not darkened at apex, posterior tibia with nearly apical half dark, and with ninth abdominal segment dark. Antennal segment II longer and slightly thickened apically. Male genitalia distinct.

*Male*.—Body oblong, length 4.95 mm, width 2.15 mm, reddish ochraceous with fuscous, color on head, calli, and underside of the body paler; clothed with fine golden simple hairs.

Head vertical, width across eyes 1.16 mm, length seen from above 0.39 mm, height seen from side 0.86 mm; vertex flat, width 0.65 mm. Eyes large, seen from above occupying nearly the whole length of head, divergent posteriorly; frons vertical, slightly convex; clypeus not prominent, slightly curved posteriorly toward apex. Rostrum nearly reaching apex of intermediate coxae, length of segments I:II:III:IV::0.52 mm:0.21 mm:0.21 mm, joint between III and IV indistinct.

Antennae reddish fuscous, length of segment I, 0.56 mm, II, 1.06 mm (segments III and IV missing) (length of antennal segments in the paratype I:II:III:IV::0.56 mm:1.06 mm:38 mm:0.49 mm, III and IV luteous).

Pronotum, length 0.9 mm, width at base 1.55 mm, at apex 0.77 mm; collar distinctly thicker than antennal segment I; calli transversely rectangular, separated by a deep rounded impression in the middle, their posterior margin not reaching side of pronotum but ended in a deep impression on each side inside lateral margin of pronotum; posterior margin of pronotum slightly concave before scutellum, lateral margins sinuate at middle, humeral angle round, posterior disk finely but distinctly punctate, with a large fuscous spot occupying about the middle third and reaching posterior

margin. Scutellum fuscous, width 0.77 mm, length 0.56 mm, triangular, with a distinct broad impression at middle of base.

Hemelytra with embolium linear, slightly convex posteriorly, length of embolium 2.28 mm, inner half of corium, clavus (except basal fifth), and inner angle of cuneus fuscous; cuneus declivent, width 0.86 mm, length 0.9 mm, membrane fuscous, finely rugulose.

The ninth abdominal segment and male genital parameres fuscous; male genitalia with left paramere bent sharply at basal third, basal portion ovate, apical portion much slenderer and pointed at apex; right paramere broad, curvate, tapering and pointed at apex. Legs moderately long, length of posterior femur 1.5 mm, length of posterior tibia 1.63 mm, apical half of posterior tibia fuscous, all tarsi pale.

*Types*.—U.S.N.M. no. 58082, holotype male, Porto Bello, Panama, March 1, 1911 (E. A. Schwarz); paratype, male, locality and collector same as holotype, March 12, 1911.

***Neella carvalhoi*, n. sp.**

*Female*.—Body oblong, length 5.03 mm, width 2.02 mm, ochraceous with fuscous, clothed with fine simple flavous hairs.

Head vertical, width across eyes 1.08 mm, length seen from above 0.39 mm, height seen from side 0.86 mm; vertex flat, width 0.56 mm. Rostrum barely reaching apex of posterior coxae, length 1.82 mm, length of segment I 0.52 mm, II 0.91 mm, joint between III and IV indistinct.

Antennae reddish fuscous, length of segment I 0.46 mm, II 1.04 mm, III and IV missing.

Pronotum impunctate, length 0.86 mm, width at base 1.51 mm, at apex 0.69 mm, posterior disk and collar fuscous, extreme humeral angle pale. Scutellum fuscous, triangular, width 0.73 mm, length 0.52 mm, basal impression much broader than that of *bicolor*, n. sp.

Hemelytra with coloration similar to that of *bicolor*, n. sp., emboliar margin very slightly convex, linear, length 2.58 mm; cuneus width 0.77 mm, length 1.03 mm, membrane fuscous.

Legs moderate in length, posterior femur 1.72 mm, posterior tibia 1.94 mm long; apical third of anterior tibia and sometimes extreme apex of intermediate tibia fuscous.

*Male*.—Color pattern similar to female,

width of head seen from above 1.19 mm, width of vertex 0.49 mm; length of antennal segment I 0.49 mm, II 1.19 mm. Genitalia similar to *bicolor*, n. sp., but the right paramere narrower and much longer and more twisted.

*Types*.—U.S.N.M. no. 58083, holotype, female, Trinidad River, Panama, June 10, 1912 (A. Busck); allotype, male, San José, Costa Rica (M. Valerio); paratype, female, same data as allotype.

This species is named in honor of Dr. José Candido M. Carvalho, who is energetically expanding our knowledge of the Neotropical Miridae.

#### *Neella fasciata*, n. sp.

*Male*.—Body elongate, length 4.9 mm, width 2.15 mm, ochraceous with reddish and fuscous, clothed with yellow simple hairs.

Head broad, vertical, width across eyes 1.29 mm, length seen from above 0.35 mm, height seen from side 0.78 mm; vertex somewhat excavate, width 0.56 mm, more yellowish posteriorly; frons tinged with reddish, flat; clypeus and jugum red, the former not prominent, discrete from frons on a line connecting lower ends of eyes. Eyes large, prominent, greatly projecting over the pronotal collar. Rostrum yellowish, with extreme apex fuscous, reaching apex of posterior coxae, length of segments I:II:III:IV::0.56 mm:0.63 mm:0.22 mm:0.18 mm (joint between II and III indistinct).

Antennae inserted at lower third of inner margin of eye, linear, length of segments I:II:III:IV::0.56 mm:1.25 mm:0.49 mm:0.69 mm, I and II brownish red, III and IV yellow, much slenderer than I and II, II very slightly thickened toward apex.

Pronotum yellow, with a transverse fuscous band behind calli extending to across propleura; length 0.9 mm, width at base 1.63 mm, width at apex behind collar 0.99 mm, apical collar very distinct, a little thicker than antennal segment I; posterior margin slightly sinuate before scutellum, lateral margin distinctly sinuate, humeral angle rounded, disk with punctures at base of hairs. Scutellum fuscous except base, triangular, width 0.77 mm, length 0.65 mm, impressed at middle of base.

Hemelytra reddish, with costal margins nearly parallel; embolium linear, length 2.37 mm; inner angle of corium broadly, clavus excepting basal fourth, and inner angle of cuneus fuscous, length of cuneus 0.86 mm, width 0.9 mm, membrane fuscous.

Body beneath yellow. Legs moderately long, concolorous, length of posterior femur 1.72 mm, of posterior tibia 1.98 mm. Male genitalia with left paramere sharply bent at basal third, much enlarged at base and tapering toward apex; right paramere broad and rounded at apex.

*Female*.—Similar to male in coloration, length 5.59 mm, width 2.15 mm. Head with width across eyes 0.86 mm, width of vertex 0.34 mm. Length of antennal segments I:II:III:IV::0.53 mm:1.26 mm:0.49 mm:0.63 mm.

*Types*.—U.S.N.M. no. 58084, holotype, male, Barro Colorado Island, Canal Zone, October 9, 1940, collected at light (J. Zetek, no. 4691); allotype, female, Barro Colorado Gatun Lake, Panama, August 1923 (R. C. Shannon); paratypes, male, Trinidad River, Panama, May 2, 1911 (A. Busck); female, Porto Bello, Panama, April 21, 1912 (A. Busck); female, Piedras Negras, Costa Rica (Schild-Burgdorf).

#### *Neella unicolor*, n. sp.

*Female*.—Body oblong, uniformly ochraceous except the fuscous antennal segments II and IV and the pale membrane on hemelytra, clothed with concolorous simple hairs; length 4.99 mm, width 2.15 mm.

Head vertical, width across eyes 1.2 mm, length seen from above 0.43 mm, height seen from side 0.73 mm; vertex flat, width 0.56 mm; frons convex; clypeus evenly curved posteriorly. Rostrum reaching apex of intermediate coxae.

Antennae slender, linear, length of segments I:II:III:IV::0.41 mm:1.09 mm:0.55 mm:0.49 mm.

*Types*.—U.S.N.M. no. 58085, holotype, female, Yurimaguas, Peru, April 7, 1920 (H. S. Parish); paratype, female, Iquitos, Peru, May 5, 1920 (H. S. Parish).